

**$a_2(1700)$**  $J^P C = 1^-(2^{++})$ 

OMITTED FROM SUMMARY TABLE

 **$a_2(1700)$  MASS**

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
<b>1732±16 OUR AVERAGE</b>					
1737± 5± 7		ABE	04	BELL	Error includes scale factor of 1.9.
1698±44		<sup>1</sup> AMSLER	02	CBAR	$10.6 e^+ e^- \rightarrow e^+ e^- K^+ K^-$
1660±40		ABELE	99B	CBAR	$0.9 \bar{p}p \rightarrow \pi^0 \eta \eta$
1675±25		ANISOVICH	09	RVUE	$1.94 \bar{p}p \rightarrow \pi^0 \eta \eta$
1722± 9±15	18k	<sup>2</sup> SCHEGELSKY	06	RVUE	$0.0 \bar{p}p, \pi N$
1702± 7	80k	<sup>3</sup> UMAN	06	E835	$\gamma\gamma \rightarrow \pi^+ \pi^- \pi^0$
1721±13±44	145k	LU	05	B852	$5.2 \bar{p}p \rightarrow \eta \eta \pi^0$
1767±14	221	<sup>4</sup> ACCIARRI	01H	L3	$18 \pi^- p \rightarrow \omega \pi^- \pi^0 p$
~1775		<sup>5</sup> GRYGOREV	99	SPEC	$\gamma\gamma \rightarrow K_S^0 K_S^0, E_{cm}^{ee} = 91, 183-209 \text{ GeV}$
1752±21± 4		ACCIARRI	97T	L3	$40 \pi^- p \rightarrow K_S^0 K_S^0 n$
					$\gamma\gamma \rightarrow \pi^+ \pi^- \pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2 From analysis of L3 data at 183–209 GeV.					NODE=M162M;LINKAGE=TT
3 Statistical error only.					NODE=M162M;LINKAGE=SC
4 Spin 2 dominant, isospin not determined, could also be $I=1$ .					NODE=M162M;LINKAGE=ST
5 Possibly two $J^P = 2^+$ resonances with isospins 0 and 1.					NODE=M162M;LINKAGE=HA
					NODE=M162M;LINKAGE=GR

 **$a_2(1700)$  WIDTH**

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
<b>194± 40 OUR AVERAGE</b>					
151± 22±24		ABE	04	BELL	Error includes scale factor of 1.6. See the ideogram below.
265± 55		<sup>6</sup> AMSLER	02	CBAR	$10.6 e^+ e^- \rightarrow e^+ e^- K^+ K^-$
280± 70		ABELE	99B	CBAR	$0.9 \bar{p}p \rightarrow \pi^0 \eta \eta$
270± 50		ANISOVICH	09	RVUE	$1.94 \bar{p}p \rightarrow \pi^0 \eta \eta$
336± 20±20	18k	<sup>7</sup> SCHEGELSKY	06	RVUE	$0.0 \bar{p}p, \pi N$
417± 19	80k	<sup>8</sup> UMAN	06	E835	$\gamma\gamma \rightarrow \pi^+ \pi^- \pi^0$
279± 49±66	145k	LU	05	B852	$5.2 \bar{p}p \rightarrow \eta \eta \pi^0$
187± 60	221	<sup>9</sup> ACCIARRI	01H	L3	$18 \pi^- p \rightarrow \omega \pi^- \pi^0 p$
150±110±34		ACCIARRI	97T	L3	$\gamma\gamma \rightarrow K_S^0 K_S^0, E_{cm}^{ee} = 91, 183-209 \text{ GeV}$
					$\gamma\gamma \rightarrow \pi^+ \pi^- \pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
6 T-matrix pole.					NODE=M162W;LINKAGE=TT
7 From analysis of L3 data at 183–209 GeV.					NODE=M162W;LINKAGE=SC
8 Statistical error only.					NODE=M162W;LINKAGE=ST
9 Spin 2 dominant, isospin not determined, could also be $I=1$ .					NODE=M162W;LINKAGE=HA

NODE=M162M

NODE=M162M

NODE=M162M;LINKAGE=TT

NODE=M162M;LINKAGE=SC

NODE=M162M;LINKAGE=ST

NODE=M162M;LINKAGE=HA

NODE=M162M;LINKAGE=GR

NODE=M162W

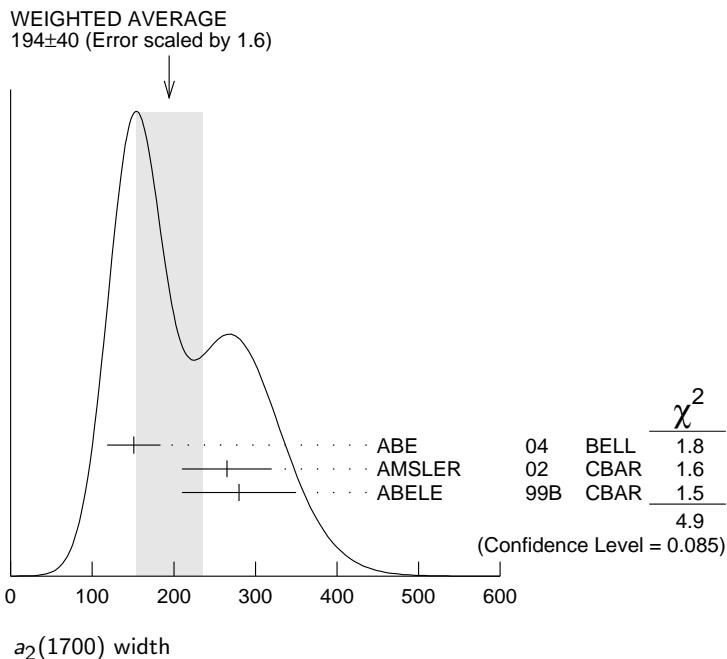
NODE=M162W

NODE=M162W;LINKAGE=TT

NODE=M162W;LINKAGE=SC

NODE=M162W;LINKAGE=ST

NODE=M162W;LINKAGE=HA



### a<sub>2</sub>(1700) DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \eta\pi$	seen
$\Gamma_2 \gamma\gamma$	
$\Gamma_3 \rho\pi$	
$\Gamma_4 f_2(1270)\pi$	
$\Gamma_5 K\bar{K}$	seen
$\Gamma_6 \omega\pi^-\pi^0$	seen
$\Gamma_7 \omega\rho$	seen

### a<sub>2</sub>(1700) PARTIAL WIDTHS

#### $\Gamma(\eta\pi)$

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>• • •</b> We do not use the following data for averages, fits, limits, etc. <b>• • •</b>				
9.5±2.0	870	10 SCHEGELSKY 06A	RVUE	$\gamma\gamma \rightarrow K_S^0 K_S^0$

#### $\Gamma_1$

NODE=M162215;NODE=M162

DESIG=4;OUR EST; $\rightarrow$  UNCHECKED  
 DESIG=1  
 DESIG=2  
 DESIG=3  
 DESIG=5;OUR EST; $\rightarrow$  UNCHECKED  
 DESIG=6;OUR EVAL; $\rightarrow$  UNCHECKED  
 DESIG=7;OUR EVAL; $\rightarrow$  UNCHECKED

#### $\Gamma(\gamma\gamma)$

VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>• • •</b> We do not use the following data for averages, fits, limits, etc. <b>• • •</b>				
0.30±0.05	870	10 SCHEGELSKY 06A	RVUE	$\gamma\gamma \rightarrow K_S^0 K_S^0$

#### $\Gamma_2$

NODE=M162W3  
NODE=M162W3NODE=M162W2  
NODE=M162W2

#### $\Gamma(K\bar{K})$

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>• • •</b> We do not use the following data for averages, fits, limits, etc. <b>• • •</b>				
5.0±3.0	870	10 SCHEGELSKY 06A	RVUE	$\gamma\gamma \rightarrow K_S^0 K_S^0$

#### $\Gamma_5$

NODE=M162W1  
NODE=M162W1

#### $\Gamma(\rho\pi)$

VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>• • •</b> We do not use the following data for averages, fits, limits, etc. <b>• • •</b>				
0.29±0.04±0.02	ACCIARRI	97T L3		$\gamma\gamma \rightarrow \pi^+\pi^-\pi^0$

#### $\Gamma_3$

NODE=M162W1;LINKAGE=SC

#### $\Gamma(f_2(1270)\pi)$

VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>• • •</b> We do not use the following data for averages, fits, limits, etc. <b>• • •</b>				
0.37 <sup>+0.12</sup> <sub>-0.08</sub> ±0.10	18k	11 SCHEGELSKY 06	RVUE	$\gamma\gamma \rightarrow \pi^+\pi^-\pi^0$

NODE=M162G1  
NODE=M162G1NODE=M162G1  
NODE=M162G1

$\Gamma(K\bar{K}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$				$\Gamma_5\Gamma_2/\Gamma$
<u>VALUE (eV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<b>• • • We do not use the following data for averages, fits, limits, etc. • • •</b>				
20.6 $\pm$ 4.2 $\pm$ 4.6	<sup>12</sup> ABE	04	BELL	$10.6 e^+ e^- \rightarrow e^+ e^- K^+ K^-$
49 $\pm$ 11 $\pm$ 13	<sup>13</sup> ACCIARRI	01H L3		$\gamma\gamma \rightarrow K_S^0 K_S^0, E_{\text{cm}}^{\text{ee}} = 91, 183\text{--}209 \text{ GeV}$

11 From analysis of L3 data at 183–209 GeV.  
 12 Assuming spin 2.  
 13 Spin 2 dominant, isospin not determined, could also be  $I=1$ .

### $a_2(1700)$ BRANCHING RATIOS

$\Gamma(\rho\pi)/\Gamma(f_2(1270)\pi)$			$\Gamma_3/\Gamma_4$	
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>• • • We do not use the following data for averages, fits, limits, etc. • • •</b>				
3.4 $\pm$ 0.4 $\pm$ 0.1	18k	<sup>14</sup> SCHEGELSKY	06 RVUE	$\gamma\gamma \rightarrow \pi^+ \pi^- \pi^0$

14 From analysis of L3 data at 183–209 GeV.

### $a_2(1700)$ REFERENCES

ANISOVICH	09	IJMP A24 2481	V.V. Anisovich, A.V. Sarantsev
SCHEGELSKY	06	EPJ A27 199	V.A. Schegelsky <i>et al.</i>
SCHEGELSKY	06A	EPJ A27 207	V.A. Schegelsky <i>et al.</i>
UMAN	06	PR D73 052009	I. Uman <i>et al.</i>
LU	05	PRL 94 032002	M. Lu <i>et al.</i>
ABE	04	EPJ C32 323	K. Abe <i>et al.</i>
AMSLER	02	EPJ C23 29	C. Amsler <i>et al.</i>
ACCIARRI	01H	PL B501 173	M. Acciarri <i>et al.</i>
ABELE	99B	EPJ C8 67	A. Abele <i>et al.</i>
GRYGOREV	99	PAN 62 470	V.K. Grygorev <i>et al.</i>
ACCIARRI	97T	PL B413 147	M. Acciarri <i>et al.</i>

Translated from YAF 62 513.

(FNAL E835)  
 (BNL E852 Collab.)  
 (BELLE Collab.)  
 (L3 Collab.)  
 (Crystal Barrel Collab.)  
 (L3 Collab.)

NODE=M162G2  
 NODE=M162G2

NODE=M162G1;LINKAGE=SC  
 NODE=M162G2;LINKAGE=AB  
 NODE=M162G;LINKAGE=HA

NODE=M162235

NODE=M162R01  
 NODE=M162R01

NODE=M162R01;LINKAGE=SC

NODE=M162

REFID=52719  
 REFID=51186  
 REFID=51185  
 REFID=51063  
 REFID=50459  
 REFID=49650  
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 REFID=46904  
 REFID=46909  
 REFID=45761